

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Integrate
and Refine Procurement Policies
Underlying Long-Term Procurement Plans

Rulemaking R-08-02-007

**COMMENTS OF THE GREEN POWER INSTITUTE ON THE
33% RPS IMPLEMENTATION ANALYSIS PRELIMINARY RESULTS**

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Introduction

Pursuant to the July 24, 2009, and August 10, 2009, emails from Jaclyn Marks, the Green Power Institute (GPI) respectfully submits: *Comments of the Green Power Institute on the 33% RPS Implementation Analysis Preliminary Results*, in R.08-02-007, the **Order Instituting Rulemaking to Integrate and Refine Procurement Policies Underlying Long-Term Procurement Plans**. Our comments address issues related to the June, 2009, *33% RPS Implementation Analysis* report, including balanced treatment of costs and benefits, balanced treatment of transmission infrastructure needs, balanced treatment of baseload renewables, renewables integration, and taking advantage of current economic conditions.

The *33% RPS Implementation Analysis* relies heavily on the RETI Phase 1 reports. The RETI documents are a primary source of information on both the costs and locations of renewable resources in California, as well as on transmission costs. Therefore, it is important to understand the scope and limitations of RETI, particularly as they relate to the data that have been used in the *33% RPS Implementation Analysis*.

The RETI project was initiated as an effort to investigate the need for developing new transmission trunk lines in California to access remote, renewables-rich resource areas of the state. It was not, and never has been, an effort to produce an optimal renewable resources build-out plan for California. Its focus has always been on renewables-resource zones that need new transmission access, not renewables located in areas that do not need major transmission upgrades to provide access. Resources in the latter category include DG, most biomass and biogas, as well as isolated wind, geothermal, and solar projects that can be developed within the constraints of the state's existing transmission system. In

many cases these resources are easier to develop than resources that are located in identified CREZs, precisely because they do not need extensive transmission investments. But they receive less emphasis in the RETI reports, which are focused on developing access to CREZs.

RETI's analysis has been performed within the context of California's existing electric-transmission grid. It is well known that the state's grid is inadequate for existing conditions, and will need a great deal of investment in order to meet the state's future needs regardless of the mix of supply resources that are ultimately deployed. For example, even in the case of the Tehachapi transmission project, which is clearly intended to provide transmission access to wind generators, at least half of the proposed investment is for SCE system upgrades that are needed regardless of whether the Tehachapi generators are ever connected to the grid. This makes it difficult to be able to attribute transmission investments to particular programs, like the RPS.

Balanced Treatment of Costs and Benefits

One of the significant limitations of the *33% RPS Implementation Study* is that it is focused only on the costs, not the benefits, of renewable energy development. This is understandable given that it is designed to examine the implementation of existing state policy (33-percent renewables by 2020), not the efficacy of the policy. However, the unfortunate result of not dealing with the benefits side of the equation is that the essential rationale for the enactment of the policy is left out of the analysis, and it is easy to forget why the expenditures are being made.

A good example of the pitfalls of this focus only on costs is the statement in the *33% RPS Implementation Analysis* report that the hedging value of renewables is limited to instances in which gas prices are very high:

A 33% RPS can serve as a hedge against natural gas prices, but only under very high natural gas and GHG allowance prices. Thus, the hedging value in itself is not a very strong justification to do a 33% RPS. [33% Implementation Analysis, pg. 9.]

Of course, hedging in the financial sense is designed to protect against price spikes, so we are a bit perplexed about the claim that hedging against “very-high” prices would be considered to be of questionable value. But the greater problem with this statement is that it completely ignores the hedging value of renewables against the risks of climate change, and the resulting damages that climate change is expected to bring. Climate science is extremely complex, and the exact risks posed by climate change are poorly understood, but there is no doubt that there is an enormous hedging value in terms of climate-change mitigation in reducing the rate of emissions of greenhouse gases. This can only help to reduce the risks of reaching critical tipping points, or ease the rate at which greenhouse-gases are increasing their concentrations in the atmosphere.

Balanced Treatment of Transmission Infrastructure Needs

One of the flaws in the *33% RPS Implementation Analysis* is that it presents a very unbalanced consideration of the transmission needs for scenarios with different amounts of renewables. This is because the analysis only looks at the transmission needs of renewables. For example, the 33% scenario in the report provides enough transmission to access seven more CREZs in the state than the 20% scenario. However, the 20% scenario does not provide for the transmission investments needed to access and supply the non-renewable electricity that will substitute for the higher-renewables build-out in the 33% scenario, which represents about 13% of the state’s electricity needs. Moreover, the all-gas scenario is constructed virtually without any consideration of the transmission needs of the required additional new gas generators, which would be quite difficult to site near developed areas. This is neither realistic nor balanced.

The result of looking only at transmission infrastructure needs that are related directly to renewables, as the *33% RPS Implementation Analysis* does, is that there is an implication that alternative scenarios do not have alternative transmission needs of their own. In fact, from a public-policy perspective, the portion of transmission cost for a renewables-rich transmission scenario that should be attributed specifically to renewables should be defined as the **net difference** between the total cost of the transmission build-out for the

renewables and alternative scenarios. This is not done in the *33% RPS Implementation Analysis*, with the result that the report attributes far too much transmission cost to the renewables account than is justified. It is also not done in the RETI phase 2A report.

Balanced Treatment of Baseload Renewables

In the opinion of the GPI, a major limitation of the *33% RPS Implementation Analysis* is that it fails to include a scenario that is weighted to baseload renewable resources like biogas, biomass, and geothermal. These resources provide a great deal more energy per MW of installed capacity than intermittent renewables, and they do not present the kinds of grid-operability issues that come with intermittent renewables. The *33% RPS Implementation Analysis* has high-wind and high-solar scenarios, but no high-baseload-renewables scenario. Baseload renewables currently provide more than 67 percent of the renewable energy being produced in California, and their potential future contribution to California's energy supply, in our opinion, is seriously undervalued in the *33% RPS Implementation Analysis*.

Renewables Integration and the Need for Fossil Generators

One of the reasons that the *33% RPS Implementation Analysis* report takes such a grim view of the possibility of meeting the 33% renewables-by-2020 goal is due to the perceived integration requirements for adding that level of renewables, particularly intermittent resources, to the grid. However we believe that many of the parties that are studying integration requirements, including the CAISO and this Commission, are too narrowly focused on current grid technology and operating procedures. In fact, there are a variety of upcoming smart-grid technologies that could fundamentally change the way that renewables are integrated into the grid. Some of the promising new technologies include smart-grid controls, on-grid storage, and smart-charging of electric vehicles, including plug-in hybrids.

The *33% RPS Implementation Analysis* reports that in the 33% Reference Case significant quantities of new fossil capacity are added in the early years of the scenario, which becomes surplus capacity in the later years of the study timeframe (ten years). This is an important modeling result that warrants careful monitoring on the part of the Commission over the next several years, in order to make sure that this scenario does not play out in practice. It also should serve to remind the Commission and the IOUs that the time to improve their procurement practices and procedures is now.

Taking Advantage of Current Market Conditions

We support, in principle, the use of functional competitive markets for optimal resource allocation. However, it is important to understand that in some circumstances markets may be out of balance and not functioning competitively, and thus not able to act efficiently. In such circumstances it is necessary to tailor regulatory programs to the circumstances at hand and act accordingly, rather than acting as if the markets are functioning efficiently when that is simply not the case.

A case in point is the renewable-energy market, which is driven in large part by concerns about climate change, and policy initiatives that are being taken to combat it. At the present time the demand for renewables in California, which is driven by statutory mandates, outstrips supply, with the result that all three of the large California IOUs are running deficits in their renewables-procurement obligations (APTs). Moreover, the deficits are on a troubling trend of increasing every year. Putting more even pressure on the market for the development of new renewable-energy-generating capacity, increasing numbers of neighboring states, and possibly the entire country, are adopting renewables mandates of their own. Under the circumstances, it seems to us that regulations ought to be designed within the context of guiding markets that are **not** functioning competitively. This often is best served by cost-based regulation, rather than by reliance on a marketplace that is seriously out of balance.

Before the mid-2008 economic collapse, the cost of developing new renewable-generating capacity was elevated because the demand for new renewables-generating equipment and engineering on a worldwide basis was clearly outstripping the supply. The result was high prices and long lead times for new projects, even as learning-curve considerations suggested that prices for many technologies should be coming down. With the fall 2008 economic downturn still in effect, demand for new renewables-generating equipment has slackened significantly, and the cost for new capacity has fallen accordingly. However, another aspect of the downturn has been a dramatic drop in the cost of natural gas, which will result in a significant decrease (probably several cents) in the MPR that will be calculated for the 2009 RPS solicitations, compared to recent solicitation rounds.

In our opinion, what we are in significant danger of doing in California is establishing an RPS-procurement pattern in which we contract for lots of renewables when the costs of developing new renewables are inflated by an imbalance of demand over supply. Then, when the economy is down and new renewables projects can be developed for less, new contracts will not be possible because of the mechanics of the MPR, and a great opportunity will be lost.

Conclusion

The *33% RPS Implementation Analysis* provides a great deal of useful information about what it will take for California to implement its 33-percent renewables by 2020 policy. However, the study does have some serious limitations that limit its usefulness as a policy tool. The study dwells only on costs, rather than balancing the costs against the benefits that the policy is intended to produce. The study presents an unbalanced treatment of transmission requirements that are attributable to renewables, and severely undervalues the potential future role of baseload renewables in the state. We would like to see these deficiencies corrected before the report is finalized.

Dated August 28, 2008, at Berkeley, California.

Respectfully Submitted,



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